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AUTHOR Ward, Beatrice A.; And Others
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ABSTRACT

This monograph, divided into three sections, describes minicourses, outlines their possible application, presents reports from three teacher training institutions that demonstrated minicourses in conjunction with their Teacher Corps programs, and suggests guidelines for minicourse utilization in teacher education. The first section discusses the following: (a) characteristics of the minicourse as a source of self-directed; competency-based teacher education; (b) a minicourse training model; (c) skills presented in minicourses; (d) supporting experiences; and (e) applications in teacher training. The second section presents an overview of the Minicourse Utilization Centers at three institutions followed by reports from Teacher Corps project members at these institutions. These reports discuss utilization design, problems and recommendations, and further applications. The final section offers 11 guidelines for utilizing minicourses, including discussions of: (a) program size; (b) selection of minicourses to be offered; (c) pretraining evaluation to determine course participation; (d) progression through courses; (e) orientation of trainees; (f) provision of training sites; (g) distribution of course materials; (h) time for minicourse work; (i) troubleshooting and guidance; (j) evaluation; and (k) monitoring performance. (PD)

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THE MINICOURSE IN TEACHER EDUCATION

A Report on Minicourse Utilization in Teacher Corps Programs

Beatrice A. Ward

John A. Masla

William Licata

Roger S. Pankratz

John Mook

Wayne Smith

Teacher Education Division
Far West Laboratory for Educational Research and Development
1855 Folsom Street, San Francisco, California 94103

Teacher Corps, Office of Education
Department of Health, Education,
and Welfare, Washington, D.C.

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FOREWORD

This monograph is addressed to those who are concerned with teacher education programs--both preservice and inservice. It reports a project to test the utilization of Minicourses in training Teacher Corps interns and cooperating inservice teachers. The basic concept of the Minicourse approach and the achievements and problems associated with its application in Teacher Corps programs are presented here to assist others who may wish to implement similar patterns of Minicourse use.

During the 1971-72 academic year, Minicourse Utilization Centers were established at three teacher training institutions with operating Teacher Corps programs. These Centers were sponsored by the Teacher Corps, Office of Education, Department of Health, Education, and Welfare, Washington, D. C., and by the developer of Minicourses, the Far West Laboratory for Educational Research and Development. In all of the institutions, Minicourses were incorporated into the ongoing programs for Teacher Corps interns and, to varying degrees, into inservice training for cooperating teachers. The three centers, which are continuing their efforts during the 1972-73 year, each used Minicourses in a different pattern in order to demonstrate alternative ways to apply Minicourses in teacher education.

The opening chapter of this monograph describes Minicourses as a means of achieving self-determined teacher education and outlines some of their possible applications in training programs. Then, following a brief explanation of the design for the three Minicourse Utilization Centers, there follow reports from the teacher training

institutions which demonstrated Minicourses in conjunction with their Teacher Corps programs: Livingston University, Livingston, Alabama; Kansas State Teachers College, Emporia, Kansas; and State University College at Buffalo, Buffalo, New York. A concluding section suggests basic guidelines for Minicourse utilization in teacher education.

CONTENTS

Minicourses and their Application to Teacher Education
Beatrice A. Ward 1

Minicourses in Three Teacher Corps Projects

An Overview 21

Livingston University
Wayne Smith 25

Kansas State Teachers College
Roger S. Pankratz and John Mook 33

State University College at Buffalo
John Masla and William Licata 47

Guidelines for Utilizing Minicourses 58

Appendix - Teacher Training Materials Developed by the
Far West Laboratory for Educational Research and Development . . 68

MINICOURSES AND THEIR APPLICATION TO TEACHER EDUCATION

Beatrice A. Ward
Director, Product Development
Teacher Education Division
Far West Laboratory for Educational Research
and Development
Berkeley, California

The education of teachers must be viewed as an ongoing process, individualized to their differing training needs. While this philosophy has long been espoused in teacher education, the contemporary scene heightens the necessity to translate the philosophy into the practice of teacher education. Rapid societal change with concomitant changes in demands on teachers, wide variations in the instructional settings in which teachers may find themselves, and a growing awareness that to improve teachers' impact on pupil learning there must be changes in teacher performance--all of these forces underline the importance of implementing an ongoing, individualized approach to teacher education. Both the experienced and prospective teacher need a continuing means of acquiring those skills that they individually find necessary to fulfilling their instructional roles.

Minicourses offer such an approach to teacher education. The Minicourse is a self-instructional teacher training package developed by the Far West Laboratory for Educational Research and Deveiopment. It is designed to enable preservice and inservice teachers to acquire specific instructional skills on a self-determined, individualized basis--when they need a particular skill, at their own pace, and within a self-evaluative framework. Minicourses may be utilized in

university-based training, such as the Teacher Corps projects reported in this monograph, and in a variety of other patterns.

This chapter describes the Minicourse and its application to teacher education. It discusses: (1) characteristics of the Minicourse as a means of self-directed, competency-based teacher education; (2) the Minicourse training model; (3) skills presented in Minicourses; (4) supporting learning experiences; and (5) applications in teacher training.

Characteristics of the Minicourse

Minicourses offer a means of providing teacher training which is self-directed, self-instructional, and competency based. Through an examination of the key characteristics of the Minicourse approach, the reasons for this statement become evident.

1. The Minicourse is a self-contained training package which may be undertaken on a flexible, individualized basis. No preconceived sequence of training experiences is imposed. Each Minicourse is self-contained and may be taken as an independent module of training. A prospective or practicing teacher may acquire the skills presented in a particular Minicourse as he finds them necessary. He need not wait, for example, until a course in the teaching of reading is offered in order to learn how to teach young children to recognize the letters of the alphabet. Training may begin whenever the teacher needs such skills. The individual teacher chooses the skills he will acquire at any particular point in his professional development based upon the requirements of the instructional role he is undertaking, the

learning characteristics of the pupils with whom he is working, and the range of skills he already possesses.

2. The Minicourse is essentially self-instructional. After an introduction to the training procedures, teachers can work through a Minicourse independently with little or no outside assistance. A teacher can proceed through a Minicourse and give particular attention to any of the instructional sequences that are especially relevant to him. The self-instructional feature of Minicourses does not, of course, preclude group discussions, work with a partner, or similar kinds of team cooperation when more than one teacher is taking a particular Minicourse. Nor does the self-instructional feature deny the value of appropriate guidance and counselling during a course.

3. The Minicourse presents specific, observable, precisely defined teaching skills. Another essential characteristic of the Minicourse instructional approach is that it provides precise, specific operational definitions for each of the skills or competencies presented. Further, all of the skills can be observed and evaluated in terms of their effectiveness in actual teaching performance. Typically, the courses provide explicit descriptions, examples, and models of the teaching skills to be acquired. The teacher's attention is focused sharply upon the essential elements in each skill, and he is often called upon to discriminate among similar skills in order to increase his understanding of the specific performance he is to practice.

4. The Minicourse training experience includes a performance model of the skills to be acquired and extensive practice in an actual

teaching situation. An integral part of each Minicourse is a model of performance presented through the medium of film. The context in which these performance models are presented closely approximates the situation in which the trainee himself will perform since the skills are modeled by other teachers working with students in a classroom environment. Written performance models are also included in the accompanying teacher handbooks. Built into each Minicourse are extensive practice sessions in which the trainee applies the skills he is learning in a regular classroom or microteach (involving a small group of pupils for a short period of time) situation. Some simulated classroom practice is also included through written exercises in the teacher handbooks.

5. The Minicourse provides immediate, individualized feedback to assist the teacher in self-evaluating his use of the teaching skills. Because practice sessions are recorded by means of video or audio tape, the trainee has a reasonably complete record of what occurred when he applied the skills. By playing back these records and evaluating his performance with the assistance of forms provided as part of the course, the teacher obtains specific feedback on his progress. Thus, the trainee learns in an environment in which trial and error are replaced by a guided, but self-directed, schedule of practice and evaluation.

Since each Minicourse is thoroughly tested to determine whether an individual who completes the training will acquire the prescribed skills, the trainee has a high degree of assurance that he will acquire the teaching skills presented if he follows the course. In

addition, evaluation data collected during the development and testing of the Minicourse can help the trainee to determine whether he is performing at a level commensurate with that of the lowest, average, or highest performing trainees in previous applications of the course.

The Minicourse Training Model

Each Minicourse utilizes a basic instructional model which is an adaptation and extension of the Stanford Microteaching Model (Allen and Ryan, 1970). There are four steps, as shown in Figure 1.

FIGURE 1

STEPS IN THE MINICOURSE INSTRUCTIONAL MODEL

Step 1	Step 2	Step 3	Step 4
Study Skills:	Observe Skills:	Practice Skills:	Refine Skills:
--Read about teaching skills	--View brief illustrations of skills --View model lesson in which teacher uses skills	--Plan and conduct microteach lesson to apply skills --Evaluate use of skills in microteach lesson	--Replan and conduct lesson --Evaluate use of skills in reteach lesson

First, the trainee reads in the teacher handbook about a limited number of specific teaching skills (usually from one to three) that center on a particular area of competency. For example, he may read about how to ask questions that are likely to provoke a higher cognitive response from students.

Second, he observes examples of the skills. Generally, this involves viewing a videotape or film in which each of the skills is described and illustrated. Following this presentation, the trainee views another brief videotape or film that shows a teacher modeling the skills in a regular classroom lesson. This model lesson serves the dual function of providing a clear performance model of how each skill can be used in an instructional context and of helping the trainee to recognize and discriminate among the skills. During the course of the lesson, the trainee is asked to identify each skill as it occurs. He receives prompt feedback on the correctness of his identification.

Third, the trainee practices the teaching skills. To do this, he begins by preparing a brief lesson in which he can apply the skills. He then teaches the lesson in a microteaching situation--a scaled down classroom in which the lesson is of shorter duration than usual (no more than ten minutes) and in which fewer pupils are involved (generally from one to eight). The trainee records his microteach lesson on video or audio tape and then plays the recording to observe his performance. He evaluates his use of the skills with the help of special forms provided in his handbook.

Fourth, the trainee refines his use of the skills through additional practice. He replans the lesson, emphasizing those skills in which his self-evaluation revealed his performance to be most inadequate. Then he reteaches the lesson, again recording on video or audio tape, and evaluates his performance.

Typically, movement through this four-step instructional model requires from two to three hours of skill practice and from two to

four hours of reading, viewing, and preparation. Each Minicourse includes four to six such instructional sequences.

The application of this training model may be illustrated by assuming that a trainee is participating in Minicourse 15, Organizing Independent Learning: Intermediate Level. This course, which develops skill in planning independent learning contracts with pupils, contains five instructional sequences, each of which builds two to five specific teaching skills. When a trainee works on the second sequence, he will be acquiring two teaching skills: (1) specifying what is to be learned; and (2) specifying how learning will be demonstrated.

First, the trainee reads a section in the teacher handbook which discusses the characteristics of a well-stated learning objective and presents examples of ways to specify what is to be learned. These include establishing criteria of performance and/or describing a finished product. While reading the handbook, the trainee is asked to apply these skills to several hypothetical independent learning contracts for which he states what is to be learned and outlines how learning will be demonstrated.

Next, the trainee views a film in which several teachers and pupils cooperatively develop objectives for a variety of independent learning activities. In these demonstrations, the teachers model the two teaching skills about which the trainee has read. He is asked to rate the quality of the teachers' use of the skills based upon the learning objectives that were established.

After completing these activities, the trainee practices the skills. He meets with a student and helps him plan the objectives

for an independent study project he wishes to undertake. This planning session is video or audio taped. Afterwards, the trainee views the tape and evaluates both his use of the two teaching skills and the quality of the learning objectives that were developed. He uses special evaluation forms for this purpose that help him to focus on the critical elements of the skills he is learning.

Finally, the trainee plans a reteach lesson in which he meets with another pupil to develop learning objectives for a new independent learning contract. This session also is recorded, and the trainee evaluates his performance to determine whether his use of the skills has improved since his first practice session.

Skills Presented in Minicourses

The Far West Laboratory currently has completed seven Minicourses, which are available commercially, and an additional five courses are at various stages of development. In addition, the Laboratory has other, non-Minicourse, teacher training products either completed or under way. Appendix A lists these materials.

Approximately 200 instructional skills are identified and presented within the Laboratory's present Minicourses. All of these skills are based upon an extensive review of relevant theory and research. Their usefulness has been tested, usually in a variety of instructional situations and with pupils at several age levels. The effect of the use of the skills upon pupil learning outcomes has been, or is being, tested for most of the courses. Thus, the Minicourses and their component instructional sequences meet the criteria of a training module as outlined by Arends, Masla, and Weber (1971). And

since they present a variety of sets of training activities, the courses provide a basis for initiating a self-determined teacher education program covering a wide range of instructional skills.

The skills presented in the Minicourses cluster into a group of basic and related competencies--called "competency clusters." The teacher training materials for each competency cluster include, but are not limited to, Minicourses. (The total range of materials is outlined in the next section of this chapter.) The Minicourses that have been completed or are under development thus far fall into competency clusters as follows.

Cluster 1--Questioning/Discussion. The objective of this competency cluster is to develop teaching concepts and skills that build pupil thinking and communication skills by use of questioning in particular and of discussion in the broader sense of teacher-pupil interaction. At the present time, four Minicourses provide skill training in this cluster.

Minicourses 1 and 3, Effective Questioning in a Classroom Discussion--Elementary (#1) and Secondary (#3), build general skills that can be used to increase student participation in discussions--for example, pausing, prompting, calling on nonvolunteers, and redirecting. They also develop skill in asking questions that require responses of more than one or two words.

Minicourse 9, Higher Cognitive Questioning, emphasizes asking questions that require use of the complex thinking skills of analysis, synthesis, and evaluation.

Minicourse 20, Divergent Thinking, builds instructional skills that encourage pupils to present a diversity of ideas rather than focusing on a single correct response. Brainstorming is acquired as a technique.

Cluster 2--Responding. In this cluster, the objective is to develop those teaching concepts and skills that cause a student to know that he is accepted as a person on a social/psychological level and to know that his academic performance is recognized, particularly when he meets or exceeds an expected level of accomplishment.

Minicourse 10, Role Playing in the Upper Elementary Grades, develops teacher skill in using role playing to analyze and build social relations. It emphasizes skills for obtaining problems from students and then creating and using role-playing sessions based on these problems.

An additional Minicourse, in the early stages of development, also falls into this cluster. Minicourse 23, Classroom Management through Positive Reinforcement, deals with teacher skills in using positive response techniques to manage the classroom by motivating student learning behavior.

Cluster 3--Management of Independent, Individualized Learning. The objective of this cluster is to develop those teaching concepts and skills required to conduct an independent learning program in which pupils perform effectively, academically, and socially.

Minicourse 8, Organizing Independent Learning--Primary Level, develops a set of instructional skills to prepare young children for independent learning--to help them learn what it means to work

independently, how to solve problems that occur while working independently, and how to function effectively when feedback about their performance is provided through a variety of means.

Minicourse 15, Organizing Independent Learning--Intermediate Level, builds on the self-directed learning environment established through applying the competencies presented in Minicourse 8. The teaching skills developed in Minicourse 15 include assessing a pupil's level of independence--determining how ready he is for self-directed learning, developing independent learning contracts with the pupil, and introducing independent, individualized learning activities into the classroom. The course includes training in such specific skills as specifying what is to be learned, specifying how the pupil will demonstrate what he has learned, and utilizing a variety of techniques for monitoring pupil performance.

Cluster 4--Teaching Reading. This competency cluster has as its objective to develop the teaching concepts and skills required to build pupil competencies in reading.

Minicourse 18, Teaching Reading as Decoding, develops instructional skills to foster pupil competency in identifying letters, establishing single and larger letter unit sound-symbol correspondences, using contextual clues to aid in decoding unknown words, and applying a specified problem-solving sequence to the decoding of an unknown word.

Minicourse 22, Teaching Reading as Comprehension, develops the instructional skills to teach pupils to comprehend their reading, including building meaning for linguistic units, analyzing organization

of written materials, and approaching reading according to purpose. In this course, teachers also learn to measure reading comprehension, select appropriate content, and frame questions that extend reading comprehension.

Cluster 5--Teaching Social Studies. The objective in this cluster is to develop teaching concepts and skills that create a learning environment in which pupils inquire about and seek information regarding social and historical events, hypothesize about the outcomes of various social actions, and develop an awareness of their own social responsibilities.

Minicourse 5, Higher Cognitive Questioning, and 20, Divergent Thinking, are included. These courses are described above under Cluster 1.

Teacher training materials for a sixth cluster of competencies, concerned with skills of presenting/explaining, will also be developed by the Laboratory. No Minicourses are presently available in this area.

Two additional Minicourses, not included in these six competency clusters, have been developed: Minicourse 2, Developing Children's Oral Language, and Minicourse 5, Individualizing Instruction in Mathematics.

Additional training materials, including Minicourses, are scheduled for development in all of the competency clusters.

Supporting Learning Experiences

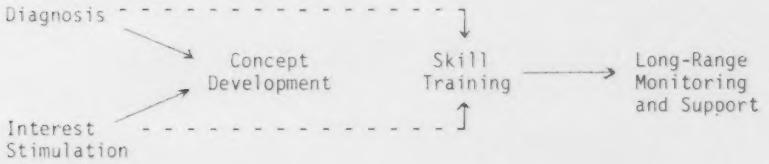
The use of Minicourses in an individualized, self-determined teacher training program requires a series of supporting learning

experiences. For example, how will a trainee decide, in a self-determined training effort, that he needs to undertake a particular Minicourse? On what basis will he determine that his performance of a specific skill requires improvement? And how can he maintain and refine his skills, once acquired?

As part of its long-range activities, the Far West Laboratory is developing materials which will help to answer such questions and provide the requisite supporting experiences for individualized, self-directed Minicourse training. Figure 2 presents the learning experiences which will be available in each competency cluster.

FIGURE 2

LEARNING EXPERIENCES IN A COMPETENCY CLUSTER



As a first step, a teacher may select between two alternative learning experiences. He may participate in diagnostic activities to help him determine the competency cluster and the set of skills within a cluster with which he should begin. Or as an alternative, he may engage in interest stimulation activities about a particular cluster. These may involve such experiences as viewing films that provide examples of outstanding and inadequate teaching performance in a competency area; compiling observation records of his own performance; or exploring use of combinations of skills.

After a teacher has decided where to begin training, he may need help in recognizing behavioral instances of concepts that pertain to a particular competency cluster. In this case, he will work with concept development materials provided for each cluster. These materials will follow the protocol format outlined by Berliner and Gee (1972) and Smith (1969).

If, however, a teacher is already able to recognize and explain concepts of teaching relevant to a competency cluster, he may move directly from diagnosis or interest stimulation to use of skill training materials. The Minicourses already described are an integral part of these skill training materials; in addition, other types of materials are being developed.

When the teacher has completed the training, he will evaluate his "exiting" skills. Then, to help him maintain his skills and apply them advantageously, a series of long-range monitoring and self-analysis materials will be provided (Flanders, 1970). These materials will, for example, help a teacher decide when he needs to recycle through all or part of a competency cluster and will help him expand his expertise in continuing self-appraisal and use of particular skills.

With these learning experiences to support Minicourse training packages, it is possible to establish a self-directed, individualized program of teacher training in a wide range of instructional skills. In such a program, the prospective or practicing teacher is able to decide which skills he will acquire when. He has available self-instructional training materials to help him acquire these skills.

And he is able to maintain and improve these instructional skills through a continuing process of self-directed analysis.

Applications in Teacher Training

There are potentially a number of patterns in which Minicourses may be utilized in teacher education. A highly individualized and self-determined program, as has just been outlined, is one such pattern. But there are several other ways in which Minicourses can be utilized to help inservice and preservice trainees achieve some measure of independent, individualized training.

Four of the key variables that influence the pattern of Minicourse use are: (1) the basis for determining course participation; (2) the degree of individualization provided in the pacing and content within individual Minicourses; (3) the context of the Minicourse training program; and (4) procedures for guidance and counselling.

1. Basis for determining course participation. In the most common utilization of Minicourses thus far with inservice teachers, participation is on a voluntary basis and is not preceded by systematic pretraining evaluation. Following presentation of information about the content of a course, the amount of time it will require, and the results that can be expected, a group of teachers in a school volunteer to take a particular Minicourse.

Other applications may involve offering a Minicourse as a means to fulfill a prescribed unit of training for preservice trainees or as an optional alternative to a lecture or seminar course for either inservice or preservice teachers.

While the foregoing patterns do not generally provide pretraining evaluation as a basis for determining course participation, another application design can do so. The prospective trainee may make a gross assessment of his own training needs to determine tentatively which of several Minicourses he should undertake. Then, he can pretest his performance in the skills presented in a given course and use this assessment to decide his course participation. Because Minicourses include a scoring system for measuring a trainee's use of the skills covered in the course, they may easily be adapted for this kind of pre-training diagnosis. Generally, data obtained during course development are available for the high, middle, and low mean teacher performance outcomes for each skill included in a course. By teaching and recording a lesson applying these skills and then evaluating his performance with the help of the Minicourse scoring system and a trained observer, the prospective trainee can compare his own performance with that of previous preservice or inservice teacher populations. With this information, he can decide whether or not he should begin Minicourse training in these skills.

This type of pretraining diagnosis requires the use of some common sense judgment, however. In every teaching-learning situation, the instructional objectives and pupils involved affect the performance to be achieved. Until information is available about the relationship between teacher use of specific skills and learning outcomes for various types of pupils in various instructional settings, acceptable performance must be defined in a flexible way.

2. Individualization of pacing and content. In many applications of the Minicourse in teacher training, groups of trainees take a course at the same time, working through it from start to finish at approximately the same pace. This procedure simplifies the logistics associated with scheduling and distribution of materials, and it is the most usual pattern in inservice programs. However, Minicourses may also be employed in a much more individualized fashion. Trainees may have the option of skipping certain instructional sequences in a course, based on pretraining diagnosis, or they may be encouraged to pace their work so that they complete individual instructional sequences in a course on their own schedule. In a highly individualized training program, supported by the requisite diagnostic activities and by adequate procedures for distribution of materials, a teacher could undertake any portion of a Minicourse at whatever point in time and at whatever rate of learning he found most appropriate.

3. Context of the training program. Patterns of Minicourse utilization also differ in terms of the training context--the timing of when a course is offered, the arrangements for microteaching, and the like. For example, Minicourses may be introduced in conjunction with preservice methods courses, either as supplements to the courses or in lieu of certain portions. The microteaching phase is then carried out with pupils made available by cooperating public schools near the university or in simulated situations in which other trainees play the role of the pupils.

Or, Minicourses may be incorporated into the student teaching experience. Under this pattern, trainees may be released from their teaching assignment approximately one hour per day to engage in Minicourse activities. The microteaching subjects are drawn from the regular student teaching classrooms.

In inservice training, Minicourses may be available to be undertaken as small groups of teachers feel the need to improve certain of their skills. The teachers may be members of the same school faculty (most common and simplest logistically), or they may be drawn from several schools in a district. The teachers are released two or three hours a week to conduct their Minicourse activities, and they work with their own students for the microteaching aspects of the course.

Another possibility for inservice training is to offer a Minicourse in conjunction with some larger school- or district-wide undertaking. For example, if the intermediate level teachers in an elementary school were planning to implement a learning contract approach for the social studies, Minicourse 15, Organizing Independent Learning, might become an integral part of their preparation efforts.

4. Procedures for guidance and counselling. During a Minicourse, various approaches may be taken to the provision of guidance. Two teachers may work together as partners, helping each other score their recorded microteach lessons, conferring on problems, and covering each other's classes during the microteaching sessions. If several teachers in a school are simultaneously taking the same

course, group sessions may be scheduled for viewing instructional and model films and for sharing ideas and resolving problems. Or a coordinator may be available on a less organized basis to consult with trainees, either as individuals or in groups. In the case of student teachers engaged in a Minicourse, cooperating classroom teachers who have taken a particular course may be an important source of guidance.

From this discussion of some of the many ways in which the courses may be applied in a teacher training program, it is apparent that Minicourses can help inservice and preservice trainees achieve a degree of independent, self-directed learning. Certainly, Minicourses lend themselves to application in a highly individualized, self-determined approach to preparation for teaching. But they may also be employed in more directed situations, still giving teachers a substantial degree of responsibility for their own learning and for evaluating their own progress toward acquiring improved teaching skills.

The three descriptions of Teacher Corps projects that follow illustrate different patterns of Minicourse application in ongoing teacher training programs. They also help to point out some of the practical problems that must be anticipated and met in order to introduce Minicourses successfully in either preservice or inservice teacher education.

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MINICOURSES IN THREE TEACHER CORPS PROJECTS

. . . . . An Overview

The three projects reported on the following pages were established during the 1971-72 school year to demonstrate the application of Minicourses in teacher education programs. All are part of ongoing Teacher Corps programs at teacher education institutions. The projects are located at Livingston University, Livingston, Alabama; Kansas State Teachers College, Emporia, Kansas; and State University College at Buffalo, Buffalo, New York.

The Minicourse Utilization Centers established at these institutions have three major purposes:

1. To test and demonstrate different patterns for utilizing Minicourses in a university-based teacher training program;

2. To provide information and assistance to other institutions in planning and implementing similar patterns of Minicourse utilization; and

3. To identify those teaching competencies included in a total teacher training program that may be acc through various Minicourses.

Planned as two-year projects, the Teacher Corps demonstrations devoted the first year to developing, testing, and revising plans for their Minicourse utilization programs. During the second year, the Centers are continuing to refine procedures--in particular, to develop diagnostic instruments use in pretraining evaluation.

None of the project patterns should be viewed as a completed model. The spirit of these efforts is one of testing and refining, of identifying successful and unsuccessful strategies for introducing Minicourses into a teacher training program.

Each of the projects has been testing a different pattern of Minicourse utilization. The three plans differ in the way Minicourses are integrated into the ongoing Teacher Corps training program; in the degree of individualization and self-determination provided, and in procedural arrangements for conducting the courses.

At Livingston University, the utilization pattern involves a sequential progression through a series of Minicourses by all participants. Minicourses are replacements for instructional modules that otherwise would have been taken by Teacher Corps interns, and trainees move through each course as a group. The training experience is self-directed to the extent that the participants conduct their own self-evaluations, plan their microteach lessons around the learning requirements of the students with whom they are working, and apply the acquired skills in their own instructional settings.

The Livingston utilization pattern provides a model of the most economical means for introducing Minicourses into a teacher training program. It requires no additional personnel beyond those who were already assigned to the Teacher Corps project. Since only one course is offered at a time, scheduling and materials distribution are reasonably simple. Group movement through courses provides opportunities for trainees to discuss with each other the instructional films they view and to cooperate in critiquing each other's microteach lessons.

At the time the Teacher Corps utilization projects were planned, it was anticipated that the Livingston University pattern would present the fewest implementation problems. As is explained in the following report about the project, this proved to be the case.

The project at Kansas State Teachers College is testing the use of Minicourses in six field learning centers, some of which are at a considerable distance from the college campus. A major goal is to identify successful strategies for utilizing Minicourses at dispersed training sites.

As ultimately envisioned, trainees will be able to select individually from among the library of Minicourse materials available at each training center. Many different styles of working through Minicourses will be possible, with self-pacing and self-selection an integral part of course procedures.

During the first year of the project, it was not possible to implement fully the entire utilization design. A number of difficulties arose which were associated with the field center approach. The experience gained, however, has led to the identification of strategies that are expected to facilitate a successful field center operation during the second year and that will effectively integrate Minicourses into a competency-based training program.

At State University College at Buffalo, the project is designed as the most advanced application of Minicourses in a self-directed teacher education program. Minicourses are being integrated into a competency-based training program and offered as optional alternatives for achieving specified competencies. Trainees themselves determine

which courses, if any, they will undertake. As the program develops, selection is being based on pretraining diagnosis of performance. Individual performance profiles are prepared detailing specific skills in which the trainee's instructional behavior is inadequate and prescribing appropriate Minicourse sequences (or other alternative means for competency achievement). Progression through the courses is self-pacing. Trainees' exiting skills are evaluated after they complete each course, and they are recycled through portions of courses when appropriate.

Since the problems of materials distribution associated with such a self-directed program can be very complex, particularly when multiple training sites are operated, the Buffalo project is introducing self-directed training in only one skill area at a time. The second year of the project will expand the utilization of Minicourses based on individualized diagnosis and course selection.

In the reports that follow, the first-year operation of each of the Minicourse utilization projects is explained, including a discussion of implementation problems that were encountered. Changes in strategy suggested by experience in utilizing the courses, as well as developmental plans for the second year, are also detailed.

LIVINGSTON UNIVERSITY

Wayne Smith
Director, Teacher Corps
Livingston University
Livingston, Alabama

At Livingston University, Minicourses have been incorporated into Teacher Corps training as part of the modularized professional education program for all interns. Over a two-year period of time, eight Minicourses are being included as an integral part of the Teacher Corps training effort. They replace certain of the instructional modules that otherwise would have been offered and represent 24 out of a total of 86 quarter hours of competency-based programming for Teacher Corps interns. In addition, Minicourses have been introduced into the University's regular teacher education program and, as will be explained later, are planned to be utilized more extensively as testing and development progresses.

Utilization Design

Since Minicourses are an integral part of the Teacher Corps training program at Livingston University, participation is expected of all interns. Each Minicourse constitutes an instructional module to be undertaken at an assigned point in the training sequence--Minicourses 5, 18, 9, and 2 during 1971-72 and Minicourses 8, 20, 15, and 22 during 1972-73. All of the Teacher Corps team leaders and preservice interns take each Minicourse at the same time, working in nearby public schools and utilizing the school populations for the

microteaching portions of the program. The University's Minicourse Utilization Center provides coordination and general supervision.

Inservice teachers who are cooperating in the Teacher Corps training project are fully involved in the Minicourse program. All cooperating teachers receive university credit for completing the Minicourse modules and are assigned to take each of the courses in the same sequence as the interns. Rather than becoming part of the intern group, however, inservice teachers undertake the Minicourses slightly in advance of the Teacher Corps trainees--a procedure that is consistent with the Far West Laboratory's findings that disruptive competition may arise sometimes when inservice teachers and preservice trainees work through a Minicourse together. Moreover, this schedule enables the cooperating teachers to assist the interns in their Minicourse training. The Teacher Corps interns know that they can ask their cooperating teachers for help in lesson planning, analyzing their microteaching lessons, and developing reteach lessons. The ready availability of this assistance has proved valuable to the preservice trainees who, it has been found at Livingston University, generally require more guidance in working through a Minicourse than do experienced teachers.

Participation in the program by inservice teachers is facilitated by the provision of released time for their Minicourse work. The university provides Teacher Corps interns and undergraduate teacher aids and tutors for this purpose.

For each Minicourse, pre and post training lessons are taught and recorded on videotape by all participants--interns and inservice

teachers. Before beginning a course, the trainees are instructed to prepare and teach to a small group of children a lesson that is relevant to the skills included in the course. For example, prior to Minicourse 5, Individualizing Instruction in Mathematics, the 36 interns and 30 inservice teachers who were to take the course each taught a brief lesson in mathematics to a group of children. These lessons were videotaped. Upon completing Minicourse 5, the trainees were again instructed to teach and videotape a similar lesson in mathematics. The pre and post training tapes were then evaluated and compared, providing information about the effect of the course on the trainees' use of the specified teaching skills.

Aside from their evaluative purpose, the pre and post tapes can serve other functions. The process of making the pre-training tape may be an interest stimulator for some teachers and interns, helping them to become sensitized to ways in which they would like to strengthen their teaching skills. And over time, after completing a particular course, trainees may be interested in monitoring their use of the skills they have acquired by making a follow-up videotape and evaluating their performance in comparison with that at the conclusion of the course.

First-Year Results

While a great deal more testing and development in Minicourse utilization is scheduled at Livingston University, several evaluative comments may be made at this point.

First, comparison of the pre and post training tapes made by the interns and cooperating teachers suggests that the Minicourses

did, indeed, affect teaching behavior. The results obtained during 1971-72 indicate that the subjects used the specified skills included in the Minicourses more often in the post-training lesson than they did in the pre-training lesson. Moreover, judged on this basis, the instructional lessons presented in the Minicourses were equally effective with preservice and inservice teachers.

Second, the participating teachers and interns judged the Minicourse program favorably. Trainees were asked to rate the program's effectiveness and helpfulness on a six-point scale. Seventy interns and cooperating teachers responded with the following results:

Unsatisfactory	--	0
Very Poor	--	1
Poor	--	2
Worthwhile	--	3
Very Worthwhile	--	28
Outstanding	--	36

Third, all of the trainees completed each of the prescribed Minicourses. While drop-outs would not normally be expected among the Teacher Corps interns, for whom the courses are a required and integral part of the total educational program, it would be conceivable that some cooperating teachers might drop out if they found the experience unsatisfactory. This did not occur--undoubtedly in part because university credit was being given, but also because the teachers found value in the program.

Fourth, the Teacher Corps interns questioned the relevancy of the first Minicourse they undertook. The timing of this course

appears to have been a major reason for their reaction, since it was presented during the summer before the interns had begun to work regularly with children. Later, after they had assumed their classroom assignments, many of the interns reported that they found the skills they had acquired in the first Minicourse were proving to be useful.

Fifth, inservice teachers felt that the Minicourses not only helped them to acquire new skills and to refine skills they already possessed, but also served the purpose of reinforcing their self-confidence. Many teachers discovered that certain practices they had been following in the classroom, but were uncertain about, were recommended by the Minicourse materials.

Problems and Recommendations

Introduction of Minicourses into the Teacher Corps training program at Livingston University proceeded quite smoothly. Problems associated with scheduling, providing appropriate physical facilities, and distributing materials had to be resolved, but it was expected from the outset that the Livingston utilization model would help to minimize these difficulties, and this proved to be the case. Since all of the trainees took the same courses in the same sequence and, with the exception of a staggering of the cycle between interns and cooperating teachers, at the same time, the mechanics of course operation were quite manageable.

It should be emphasized, however, that logistical problems must be met effectively if Minicourses are to be of maximum benefit.

Specifically, scheduling of materials and equipment must be worked out carefully. When a Minicourse is to be used simultaneously at several training sites among which equipment and materials must be shared, a workable schedule must be developed and followed. The training films for each instructional sequence of a course and the equipment for videotaping and critiquing microteach lessons must be available when they are needed. Teachers who are expecting to do their work at a specified time and then are delayed because of schedule malfunctions become frustrated and lose interest.

When inservice teachers are undertaking Minicourses, it is equally essential to make adequate provision for released time. The Livingston project was fortunate in this regard because the University was able to provide Teacher Corps interns and undergraduate teacher aides and tutors to release teachers from the classroom.

Further Applications

Some extension of the Minicourses into the regular undergraduate program at Livingston University has already occurred. Minicourse 5, Individualizing Instruction in Mathematics, was used with preservice undergraduates in elementary education during the academic year 1971-72. Some portions of Minicourse 2, Developing Children's Oral Language, were included in both secondary and elementary lab during the year. As testing and development continues, it is anticipated that greater use will be made of the Minicourses.

In the judgment of the Livingston University Center, the Minicourses being developed by the Far West Laboratory are among the

very best materials available for helping trainees to gain specific teaching skills. Traditional programs of teacher preparation too often have attempted to tell prospective teachers to teach differently from the way they are taught. For students with poor perceptual models of teaching, this kind of traditional instruction about how to teach often fails. They go into the field and largely teach in a fashion consistent with the models they had already formed. Because it provides the trainee with an observable model, the Minicourse process is an excellent tool for helping teachers to redefine their perceptual model of a teacher's behavior. The trainee not only is told what skills to use but also sees a demonstration of those skills by a master teacher. He is then provided with the opportunity to practice the skills himself and to compare his performance with that of the model. This is a procedure which can effectively alter a trainee's perceptual model of teaching.

The Minicourse approach is also valuable because with little or no alteration, the courses lend themselves to being used either in part or as whole packages in a modularized and individualized preparation program. At Livingston University, the design for such a program has been completed and testing and refinement of individualized learning modules is in process. As each Minicourse is tested and evaluated with the Teacher Corps interns and cooperating teachers, all or portions of the instructional sequences are being built into learning modules as alternate learning experiences for regular elementary and second majors in the University's competency-based program.

For example, as one of his clinical experiences, an elementary education major is assigned to work with a small group of children in a local school. The teacher trainee has a module stating that he will demonstrate skill in developing the oral language of children, and this group of pupils does not respond to questioning with complete sentences. In order to acquire the required skills, the trainee may select from among several alternatives, including Minicourse 2, Developing Children's Oral Language. The student may read the teacher handbook for ideas he can utilize. He may watch model films from the course showing a teacher demonstrating specific skills that have proved to be effective in expanding children's oral language. After reading and viewing, he may conduct a microteach lesson in which he practices and evaluates his use of only those skills he has selected for study. Or he may completed all the lessons provided in Minicourse 2. It is expected that Minicourses will increasingly be integrated in this manner into the total competency-based teacher preparation program at Livingston University for both preservice and inservice trainees.

KANSAS STATE TEACHERS COLLEGE

Roger S. Pankratz
and
John Mook
Teacher Corps
Kansas State Teachers College
Emporia, Kansas

The Teacher Corps project at Kansas State Teachers College introduced Minicourses as part of a field-centered teacher training program in rural Kansas. Participants in the Minicourse program were first-year graduate interns and regular inservice teachers from ten small rural schools.

Experience with Minicourses during the first year of operation, along with continuing development of the design for a competency-based program, have led to refinements in utilization procedures and to a closer integration of the Minicourses into the total teacher education effort. The following pages detail both the actual operation of Minicourses during the first year and the more recently developed procedures for their future utilization.

Utilization Design

The introduction of Minicourses in the KSTC Teacher Corps program centered in six field centers, some of which are a considerable distance from the college. Each center serves a secondary portal school and feeder elementary schools and has a Teacher Corps team.

In the plans for the program, it was intended that the trainees at each center would be able to work with a considerable measure of

self-direction in selecting the Minicourses they would undertake and in pacing their own work. Because the total competency-based program at KSTC was still in the early stages of development, it was not possible at the beginning to found Minicourse participation upon systematic, individualized diagnosis or to implement fully the self-directive features of the utilization design. Instead, it was decided to begin by assigning all participants to work through Minicourse 20, Divergent Thinking. Regular inservice teachers participated on a voluntary basis, with two hours resident credit given by the college. For the Teacher Corps interns, Minicourse work was an addition to their already established educational requirements.

Actual operation of the program began after school opened in the fall. The superintendents and principals in each field center were contacted to enlist their support and to make arrangements for physical facilities, scheduling, and released time for inservice teachers. Next, meetings were held in each center to orient faculty and Teacher Corps interns to the Minicourses. The Minicourse process was explained, and Minicourse 20, with which all trainees would begin, was outlined in some detail. After a week's time, during which prospective participants could review the course handbook and reach a decision about whether they would take the course, an organizational meeting was held to work out scheduling and to explain the use of the videotape equipment.

Since the program is field centered and the training sites are widely dispersed, each of the six centers was equipped with videotape recording equipment and copies of Minicourse materials. The Minicourse

project coordinator from the college made weekly visits to all of the training locations to answer any questions related to course content and procedures. He also was on call between visits in case of difficulties. The team leaders at each site were responsible for helping to solve equipment and scheduling difficulties. Beyond this assistance, the participants worked with a minimum of direction, although trainees could and did consult with each other about such steps as planning and evaluating their microteach lessons.

For a number of reasons, which will be discussed shortly, completion of the first Minicourse took a considerable amount of time for some participants. A few, in fact, did not finish it at all. However, as trainees did complete the course, they were immediately given the option of working on any of the other courses available to the project. These were Minicourse 3, Effective Questioning--Secondary Level; Minicourse 5, Individualizing Instruction in Mathematics; Minicourse 9, Higher Cognitive Questioning; and three sequences of Minicourse 15, Organizing Independent Learning--Intermediate Level. Descriptions of these courses were made available, and some individual guidance was provided to help teachers and interns make decisions about further Minicourse work.

At this point, it began to be possible to implement the project intent of making Minicourse participation more self-directed and self-pacing. Interns and inservice teachers were able to select from among several courses, rather than all working together through the same course.

Particularly important, however, was the major change that occurred about this time in the project's philosophy about how to utilize Minicourses in a Teacher Corps program. Whereas the emphasis initially had been on having trainees complete courses, the KSTC project now shifted to an emphasis on trainees' demonstrating specific competencies included in the Minicourses. In short, it was decided to integrate the skills developed in the Minicourses into the total structure of a competency-based program. As a result, once Minicourse 20 was completed, trainees were no longer required to work systematically through an entire Minicourse. This shift in approach, of course has had major implications, and these will be discussed more fully in the concluding section of this report.

At the six training sites, a total of 25 inservice teachers began Minicourse 20, and 17 completed it. Among the Teacher Corps interns, 34 began the course, and 24 completed it. During the second semester of the school year, following Minicourse 20, there were 21 completions by inservice teachers of additional Minicourses offered as options, and more than 30 of the inservice teachers pre-enrolled for one or more courses during the summer. Teacher Corps intern participation following the first course is difficult to determine since many availed themselves of the option in a competency-based program of undertaking only selected instructional sequences from subsequent courses.

While there may be reason for a certain amount of disappointment about these levels of participation, the first year of the project was nevertheless very valuable in testing the feasibility of using

Minicourses as training materials in a competency-based, field-centered teacher education program. Moreover, almost without exception, the content of the Minicourses has been well received by interns and inservice teachers. Comments such as, "I don't know how I got by before without questioning skills," or, "It's the most valuable education course I've ever had," have been common. The value of acquiring the teaching skills was seldom, if ever, questioned. The difficulties that led to a somewhat low level of participation were not in the courses themselves but rather in some of the utilization procedures. These problems will now be identified in some detail.

Problems and Recommendations

Looking back on the first year's experience in the Kansas program, it is possible to identify a number of conditions that presented difficult problems in introducing Minicourses. The experience gained from confronting these problems has resulted in some major changes in the program for the project's second year.

Administrative support for inservice training. Historically, none of the rural districts served by the Teacher Corps in the Kansas program has had a dynamic, ongoing inservice education program. Inservice training is something teachers do at night, on Saturdays, or in the summer. To take time off during the school day for training is often considered to be "cheating the taxpayer so teachers can get better jobs with higher pay." Quite apparently, this attitude toward inservice education programs created a difficult climate for training.

All of the administrators in the project were cooperative in accepting Minicourses, and most of them did their best to make space available for microteaching. Superintendents even committed some school funds to buy the videotape recording equipment when this became necessary. However, administrative support needs to go beyond this level, especially in a situation in which inservice training has traditionally been viewed as an "extra."

In the KSTC decentralized, field-centered utilization plan, the building principal is the climate setter. He needs to actively encourage inservice training among his teachers and make his support tangible by arranging time and space during school hours when teachers can microteach. Minicourse participation requires an investment of time, and many inservice teachers will not make this investment unless they know that administrators value their training efforts.

Time for training. Lack of scheduled time for Minicourse work was a major limitation on participation during the first year of operation. Many teachers in small rural schools in Kansas have from five to six preparations per day. In fact, one high school in the Teacher Corps program has a faculty of nine teachers and boasts of 40 course offerings. Furthermore, most teachers in the schools served by the project sponsor a minimum of two extra-curricular activities. For these teachers even to undertake a Minicourse is difficult enough, and to do so without adequate provision of released time is close to impossible. As a result, it took some trainees a great deal of time to finish the first course, and a few did not complete it at all. This experience forcibly demonstrates the

necessity to provide released time for inservice teachers who undertake Minicourses. Teacher Corps interns, volunteers, or other teachers working on a team basis can release teachers from their classrooms, but whatever the solution, arrangements must be made and supported by the school administration.

The fact that the Minicourse program did not begin until after school started in September further compounded the problem of time. Most of the teachers' schedules were already well established at the beginning of the year. Many had enrolled in night or Saturday classes at the college--in many cases, necessitating a time-consuming drive. To come in after the school year had begun and add one more item to an already crowded schedule was not well received. Time for Minicourses just didn't exist.

For the second year of the program, teachers have pre-enrolled for Minicourses during the spring or summer so that time can be scheduled into fall programs. This will also allow teachers to substitute Minicourses for some night classes to which they would have to commute.

Orientation to Minicourses. No matter how beneficial a program might be, participation will be minimal if teachers and administrators do not recognize its value. Short group presentations explaining Minicourses, such as were held during the first year of the Kansas project, are not enough. Teachers and interns need a good deal more information before they will commit themselves to a venture such as microteaching. First, they should be given a "feel" for the Minicourse process. For this purpose, the best salesman is a teacher

who has already completed a course. Second, prospective trainees need to know specifically what a particular course will do for them, how many clock hours it will require, and how it fits into their total efforts to become better teachers. These questions require one-to-one contacts with knowledgeable school coordinators or team leaders.

For the second year, new approaches to orientation have been planned. Several types of orientation packages have been developed, and time has been scheduled for more thorough discussions with individual prospective trainees. In addition, interns and teachers will begin to have available specifications of competencies to be acquired and appropriate diagnostic instruments to help them be prescriptive in a self-determined training program. Team leaders will assume a much more active role in this total orientation process.

Field supervision. During the first year, most of the Minicourse guidance and supervision was provided by a part-time Minicourse project coordinator from the college who also was part-time school coordinator for the Teacher Corps project. Because the program got off to a late start and because team leaders had many other responsibilities during the first year, time was not taken to train the team leaders to supervise the Minicourse work in the field. This was obviously a mistake.

Adequate coordination, supervision, and evaluation of Minicourses requires at least one trained person who is always accessible and who is available to make sure that participants do not become bogged down with difficulties. Even though the materials are self-teaching, some

trainees are not able to work through difficulties on their own. They need help in learning to work in a more self-directed manner and in becoming comfortable with a self-corrective, self-evaluative learning process. Trained team leaders are the logical source of this assistance. They must serve not only as supervisors and coordinators but also as teacher trainers, providing diagnosis, prescription, and evaluation, if field-centered teacher training and renewal is to become a reality.

Integration into a competency-based program. Probably the most fundamental problem encountered the first year was the fact that the Teacher Corps interns did not view Minicourses as an integral part of a competency-based program. This was because the structure of competency-based programming had not yet taken shape at Kansas State Teachers College. Consequently, interns were expected to complete Minicourses with very little notion of how doing so would help to make them competent teachers. Although the interns had been told that their completion of the experimental program depended entirely on their demonstration of specified competencies, they could not perceive the connection between the Minicourses they were asked to complete and this requirement. Because Minicourses were not described as an integral part of a competency-based program, and because no pretraining diagnostic tests were given to enable interns to test out of competencies, they saw Minicourses as conventional courses which the program director was trying to push to keep "his project" going.

It was at this point that the Teacher Corps staff resisted adopting a "get tough" policy and instead began to examine the basic problem. It became clear that the skills developed in the Minicourses should be integrated into the total structure of a competency-based program. Thus, after the initial experience with Minicourse 20, the staff broke the courses down into individual sequences and began requiring only the terminal behaviors. Interns' attitudes toward Minicourses improved considerably once this was done.

Other recommendations. Following are additional suggestions for practical utilization of Minicourses.

1. Start small. Get some experience and confidence in operating Minicourses before launching a large scale program.

2. Offer teachers options of taking the Minicourses they feel would be most helpful to them. Trainees who volunteer to participate and who choose their own program seem to have a higher degree of motivation and are more likely to complete the training than those whose participation is required.

3. Provide a strong orientation program to give inservice teachers and interns comprehensive knowledge of what Minicourses are, how they will be helpful, and what they will involve.

4. Allow ample lead time to organize and set up equipment and materials before the starting date of a Minicourse program. Unforeseen problems can cause delays, and these, in turn, can cause teachers to lose interest.

5. Make sure that all persons participating in the courses are comfortable with handling the video equipment before they begin.

6. Have back-up connecting cables for the equipment in the field to reduce down time.

7. Establish a plan for teachers to share their experiences with other trainees. Such a procedure reduces the number of problems that require a supervisor's help.

A Model for Continued Operation

If competency-based, field-centered teacher training is ever to become a reality, the fragmentation and conglomeration of a series of graduate courses must cease. This must be replaced by a definition of competencies needed by teachers, a series of diagnostic instruments whereby training needs can be ascertained, and the development of alternative forms of instruction that may be prescribed to meet the differing needs of teachers.

As a part of the Teacher Corps program at Kansas State Teachers College, such a competency-based instructional program in secondary education is being developed and tested. While eventually it is planned that a variety of instructional activities will be available by which trainees may meet stated objectives, it seems far more advisable in the early stages of program development to utilize existing materials that have been carefully developed and tested. The Minicourses from the Far West Laboratory are a major source of such previously developed materials and are being integrated into the instructional design.

The total professional teacher education program in the Teacher Corps project at KSTC is comprised of eight components--seven supporting component areas and an eighth component centering on instructional skills. This instructional skills component includes: (1) planning skills, and (2) interaction skills. It is by far the most important component and the one on which interns spend the most time. During the next year, the KSTC Teacher Corps project will attempt to develop a clinical approach to inservice and preservice teacher training in these basic instructional skills. In the interaction skills category of the component, Minicourses will be the almost exclusive means of instruction, at least for the immediate future. (In addition, two Minicourses are being utilized in a supporting component concerned with methods and materials.)

The interactive skills are presently divided into five basic areas: questioning, using students' ideas, providing reinforcement and feedback, accepting and recognizing students' feelings, and stimulating divergent thinking. Each of these five skills is keyed to specific instructional sequences in Minicourses 3, 9, and 20 and in the Laboratory's Interaction Analysis training materials. In addition, protocol materials developed by the Laboratory in three of the areas are being used for concept development.

The operation of the program will be as follows. Each intern will work with an "assist and assess" team, comprised of a college faculty member, the team leader, and a regular inservice teacher from the participating school. This team will help him diagnose his competency in using specific skills. The diagnostic instruments,

being developed in cooperation with the Far West Laboratory, utilize the Flanders Interaction Analysis Categories and the Laboratory's training materials. The teacher will be encouraged, but not forced, to undergo diagnosis by teaching model lessons. Then he will negotiate with his team the representative behaviors he plans to demonstrate for each of the competencies in which his performance needs improvement. Learning activities will be suggested--specifically, the appropriate sequences in the Minicourses and the Interaction Analysis training materials of the Laboratory. However, the final decision about his specific instructional program will be left to the trainee. After completing his learning activities, the intern will then teach and videotape a lesson in which he will demonstrate the required skill. In the view of the project staff, this procedure is a viable alternative to prescribing courses that take no account of the trainee's existing level of performance.

This model for continued utilization of Minicourses builds on the experiences at Kansas State Teachers College during the first year of the project. Thus, both interns and inservice teachers will emphasize demonstration of specified competencies--not completion of courses. The diagnostic instruments being developed will help participants to assume a greater degree of responsibility for self-determining their instructional program and to pursue a program that is individualized in content. And rather than being added on to their schedules, Minicourses will become an integral part of the training program for both interns and inservice teachers.

Quite apparently, to operate such a program at field centers dispersed from the training institution requires a great deal more on-site guidance and supervisory capability than was provided during the first year. The "assist and assess" team will assume this responsibility, with the team leader's role greatly expanded to make him a diagnostician, a resource person for suggesting instructional activities, a supervisor of instruction, and an evaluator of progress toward demonstrating competencies.

Through these procedures, many of the fundamental problems encountered in the first year should be resolved, and the project will be moving closer toward the goal of a competency-based, individualized teacher education program.

STATE UNIVERSITY COLLEGE AT BUFFALO

John Masla
Director, Teacher Corps
and
William Licata
Director, Experimental Curriculum
Development and Evaluation
State University College at Buffalo
Buffalo, New York

The Teacher Corps program at State University College at Buffalo has been developing and implementing components of a competency-based teacher education program since 1970. Minicourses were introduced into the program in the second year of operation, in the fall of 1971, as alternative instructional modules by which interns may achieve specified objectives. Since the emphasis at Buffalo has been on testing the applicability of Minicourses in the total preparation program for preservice interns, Minicourse participants have largely been Teacher Corps trainees, although there has also been some involvement among inservice teachers in cooperating schools.

Utilization Design

The Buffalo Teacher Corps program has introduced Minicourses as an integral part of a total competency-based approach to teacher education; in the over-all program, they have become alternative means to competency achievement. Thus, the training effort has evolved into a multi-based program in which traditional courses, Minicourses, and other instructional modules are employed as alternative means to acquiring prescribed teaching competencies.

Minicourses are presented as alternative learning activities in three areas: (1) interactive skills--Minicourses 1, 2, 9, and 20; (2) independent learning skills--Minicourses 8 and 15; and (3) subject matter areas--individualization techniques in mathematics (Minicourse 5), and decoding skills in reading (Minicourse 18).

Within these three areas, interns were given an option prior to the fall semester of 1971 as to how they would earn six semester hours credit. They could take two three-hour courses (such as a seminar and a methods course), replace them with three Minicourses to be completed during the year (each worth two semester hours), or combine seminars and Minicourses. Interns were restricted to a maximum of three Minicourses.

The interns who elected to take Minicourses in lieu of regular courses were asked to conduct a self-assessment of needed skills in the three competency areas for which Minicourses were available. (More refined assessment techniques were developed later in the year, as will be explained in the concluding section of this report.) The team leaders then consulted individually with the interns to help them select the Minicourses that would be most appropriate to their needs. Selection was individual; there was no requirement that all of the interns in a given school begin with the same Minicourse, although in some instances, it coincidentally occurred this way.

Initially, 28 interns in six cooperating schools began the Minicourse program. Team leaders provided direction and guidance in carrying out course activities. When the trainee had completed

the course, he was required to submit three videotapes in which he demonstrated the skills to be acquired. The tapes were evaluated by the Minicourse director and by a critic, a former team leader with substantial supervisory experience. For this purpose, forms were developed on which the evaluator could record relevant evidence about each of the skills the intern was to demonstrate. This procedure provided excellent feedback for the director and established a working relationship between him and the interns. However, the evaluation process did prove to be exceedingly time consuming.

After the tapes had been evaluated, a conference was held with each intern to discuss the results and to decide cooperatively which Minicourse would be undertaken next. Trainees were assigned to recycle through portions of Minicourses when the evaluation of their tapes indicated that they had not reached an acceptable level of competence in performing certain of the specified skills. Interns regarded this total procedure as a very meaningful evaluative process.

Problems and Recommendations

Embarking on a new program always entails many unknowns and many problems that cannot be foreseen. Fortunately, none of these proved to be insurmountable. Some of the problems that were encountered are described next.

Scheduling. When the project began, there were 28 interns in six schools taking the four Minicourses that were available at the outset. Since copies of all the courses were not available to be deposited permanently in each of the six training sites, a round

robin type of scheduling was established. To facilitate record keeping and an efficient distribution of materials, a chart was made for each course on which the location of the films for each instructional sequence could be recorded. The charts were covered with acetate so that marking pencils could be used and the information kept current.

Early in the year, after the interns had made their initial selections of Minicourses, the team leaders arranged very flexible schedules for taping. It was only a very short time, however, before the leaders realized that these flexible schedules were not the best approach. The interns progressed more satisfactorily if the schedules were less flexible and they had to adhere to deadlines for taping.

Physical facilities and equipment. In each of the six schools, it was necessary to procure rooms which could be utilized for the microteaching aspects of the Minicourses. Five of the six schools had facilities which could be used for this purpose. In the sixth, the problem was resolved by using both the reading center and the library at alternating periods. This involved a great deal of inconvenience resulting from the continual moving of equipment, but it seemed to provide a satisfactory arrangement for the interns.

The videotape recording equipment used in the project stood up very well, considering the hours of use and, sometimes, misuse. However, problems do arise when equipment is down. For anyone planning to make extensive use of videotape recorders, a technician is a must. The Buffalo project could not have survived without one. Students were allowed to audiotape some of their sequences while

equipment was being repaired, and this helped to alleviate their anxiety about losing valuable time. A problem of security also arose since three pieces of equipment were stolen from the schools, again causing delays waiting for replacements. Team leaders solved the security problem in some schools by actually taking the equipment home with them on weekends.

The interns and team leaders received some training in the use of the videotape recording equipment prior to undertaking the Minicourses. However, it was at least a month before all of them felt competent to use it. Considerable practice is helpful in preparing trainees to be comfortable when they begin videotaping. As the project progressed, various ways to obtain a better quality of recordings were discovered. For example, microphones on a table or desk are much less satisfactory than overhead mikes. Children tend to play with a microphone that is accessible--tapping the table or desk on which it is placed, pulling the cord--and all of these noises can be heard on the tape. In order to obtain satisfactory recordings, it was necessary in the Buffalo project to purchase a sound shield to screen out local radio stations that were being picked up on tape.

Evaluation and grading. As mentioned earlier, evaluation of the three videotapes that each intern was required to submit upon completion of a Minicourse turned out to be an awesome task. There were some 270 tapes to be viewed and evaluated by the Minicourse director and the critic. In some instances, the evaluation sheets were too detailed and time consuming to be practical, and it was

necessary to simplify the forms so that only the major skill areas presented in each course would be evaluated. In order to disperse the burden of evaluation, team leaders and graduate students could be trained to evaluate post-training tapes. Under this procedure, however, the course director would lose some of the feedback and the close relationship with interns that was achieved in the Buffalo project.

It was necessary to give a letter grade for the six hours of graduate credit represented by the three Minicourses. In retrospect, it would have been preferable to have given either a satisfactory or an unsatisfactory grade. In a competency-based program, the trainee either demonstrates the required skills or he doesn't.

Training team leaders. The team leaders are the key personnel in facilitating effective use of Minicourses within a Teacher Corps program such as that at State University College at Buffalo. In schools in which the team leader manifested a laissez-faire attitude, the interns took much longer to finish the Minicourses. In schools in which team leaders were enthusiastic and provided appropriate guidance, the interns took much less time to complete the courses. However, it was found that the team leaders had little effect on the interns' actual skill development; the quality of skills developed had little relationship to the quality of the team leaders. This finding gives credence to the basic proposition that Minicourses are self-instructional.

While some inservice workshops were held with the team leaders in the project, these efforts seemed to be after the fact. Before

a Minicourse project is begun, team leaders should be thoroughly trained. Each team leader should be required to take a Minicourse prior to the introduction of the courses to interns. Coupled with the training involved in using the Far West Laboratory's evaluation materials, this procedure will insure far better supervision during course operation than was obtained the first year at Buffalo. The team leaders should also be required to be totally familiar with the coordinator's handbook that accompanies each course. Team leaders in the project experienced many problems that could have been circumvented if they had followed the procedures outlined in the handbook.

Finally, it is essential to take into account the amount of time that team leaders will need to spend in order to make the project run successfully. Since the Minicourse program began late in September at Buffalo, the leaders were already immersed in their everyday routines, and some of them responded negatively to the addition of another task to their other responsibilities. This situation should be avoided.

Other recommendations. Several other specific recommendations for Minicourse utilization follow, based on experience at State University College at Buffalo.

1. Do not oversell Minicourses. They are aids to a total program of teacher development and cannot be used as gap-fillers for incompetent teachers and administrators.

2. Do not require Minicourses; always make them an option or part of a module.

3. Be thoroughly familiar with the clientele who will be taking the Minicourses (undergraduates, graduate interns, inservice teachers, etc.) and plan accordingly. Experienced teachers have reacted differently to some Minicourses than have preservice trainees.

4. Follow the complete Minicourse process. Be sure that all trainees read the handbook, view the instructional films, and most important, microteach and evaluate.

5. Make certain that teachers and administrators are willing to meet their commitments for providing space, equipment, and time.

6. Limit the number of people assigned to use a specific set of equipment and materials. The number must be small enough to allow trainees to maintain a reasonable work schedule.

Toward Individualized Minicourse Programming

From the outset, trainees in the Buffalo project were allowed to select the Minicourses that they would undertake. This decision was based on a self-assessment and consultation with team leaders. However, it is clear that in a competency-based teacher education program, there is a need for more refined assessment and diagnostic procedures. The Buffalo project is piloting an alternative approach to Minicourse selection which, it is hoped, will lead to diagnosis of an intern's competencies and individualized prescription of appropriate training sequences.

The approach being developed provides individualized competency assessment in the interaction skills area. It utilizes an adaptation of the Flanders Interaction Analysis System in order to describe

interaction patterns, identify problems, and prescribe appropriate instructional activities to help the trainee acquire the needed skills.

The procedure requires that all trainees submit a fifteen- to twenty-minute videotaped lesson of a discussion with a group of students on any topic related to the current classroom curriculum. The pupil-teacher interaction on this tape is coded through a modification of Flanders' Interaction Analysis Categories. Then, by following a simplification of Flanders' analytic procedures, patterns of verbal interaction are identified and skill deficiencies are diagnosed. For example:

Description of Verbal Interaction Pattern	Diagnosis	Possible Minicourse Prescription
A series of short, closed, memory type questions and responses, involving lower levels of cognition.	Depending on the subject matter of the discussion, may indicate lack of skill in asking analysis, synthesis, and evaluation questions.	I Effective Questioning 1:F Asking Higher Order Questions
A divergent question followed by the teacher lecturing or giving his opinion.	Teacher is failing to pause after questions and is answering his own questions.	I Effective Questioning 1:A Pausing

The information gathered from this analysis is then transferred to a Teacher Skills Profile. This form lists the basic teaching skills of interaction included in the Minicourses and provides space

for a record of pre-training assessment, the prescribed learning activity, and post-training assessment. An excerpt from the form appears as Figure 1.

Figure 1

EXCERPT FROM
INTERACTION TEACHING
SKILLS PROFILE

INTERN _____ DATE _____

SCHOOL _____ TEAM LEADER _____

"O" - OBSERVATION "C" - CONFERENCE

BASIC SKILLS OF INTERACTION	ASSESSMENT		PRESCRIPTION	ASSESSMENT	
	POS	NEG		POS	NEG
I EFFECTIVE QUESTIONING 1.A PAUSING					
1.B ACCEPTANCE OF PUPIL RESPONSES					
1.C PUPIL PARTICIPATION					
1.D REDIRECTION					
1.E CONCEPT FORMATION					
1.F ASKING HIGHER ORDER QUESTIONS					

Since it would be impossible to observe all of the interaction skills evidenced by each of the interns, the information obtained from videotapes and classroom observation is supplemented by data obtained through conferences with trainees. An "O" is used on the profile to indicate assessment of a skill obtained through observation of the intern's performance; a "C" indicates information obtained through a conference in which the intern demonstrated a knowledge of the specified skill. Maintaining this form provides an up-to-date profile of the intern's interaction skills, along with a record of his prescribed learning activities.

This diagnostic procedure has been through a pilot stage and was utilized during the latter part of 1971-72. It has proved to be useful in moving toward an individualized process for Minicourse programming. The project staff believes, however, that the next step is to develop a diagnostic instrument that includes a wider range of competencies--one that is not limited to the area of interaction skills. It is also necessary to find a means of categorizing competencies and basic teaching skills into broader terms so that the profile does not become too cumbersome.

By continuing these developmental efforts, the Buffalo project hopes to move forward in designing a teacher education program that can guarantee the acquisition of certain specific teaching competencies. While teachers so trained may fall far short of being omnicapable, the fact that they have specific, definable competencies will provide the opportunity to examine the influence of these competencies on student achievement.

GUIDELINES FOR UTILIZING MINICOURSES

Introduction of Minicourses into a teacher training program should be preceded by careful planning. What will be the basis for determining course participation? Will trainees be able to pace their own Minicourse work? Where will the training sites be located? How will trainees be given time to conduct Minicourse activities? These and a number of other questions need to be thought through before embarking on a Minicourse program.

Based upon experience gained in the Teacher Corps projects and in a wide range of field test applications conducted by the Far West Laboratory, the following are suggested as critical considerations for planning.

1. Program size. As a rule, the wisest approach is to begin modestly. The potential for encountering sticky operational problems increases the more training sites established, the greater the number of participants enrolled, and the more Minicourses offered simultaneously. Once some experience has been acquired, operation of a Minicourse program is not difficult. But precisely because Minicourses are an innovative approach in teacher education, it is usually prudent to gain initial experience on a relatively small scale.

2. Selection of Minicourses to be offered. The target group of trainees will be a major consideration in selecting Minicourses. Are the prospective trainees elementary and/or secondary teachers? (Many courses are designed primarily for teachers working with a

particular age level of students.) Are they preservice and/or inservice? (Generally, the Minicourses are equally successful with prospective and practicing teachers; however, the trainees' perceptions of the applicability of some courses may vary depending on whether or not they have yet begun to work with pupils on a regular basis in the classroom.) What are the trainees' requirements for specific instructional skills presented in various of the Minicourses? (Even in the absence of comprehensive diagnostic instruments, it may be possible to make an informed estimation of the relative importance of particular trainees acquiring alternative sets of skills.)

In addition, course selection will be affected by the content of the total teacher training effort--especially in preservice programs in which Minicourses may be offered as either substitutes or alternatives for existing training units.

3. Pretraining evaluation and determining course participation. Minicourses have been utilized successfully with virtually no pretraining evaluation; trainees have simply been assigned to courses or have volunteered to take them on the basis of a very gross estimation of relevance. The Teacher Corps project at Livingston University has successfully assigned trainees to Minicourses. Most users of the courses, however, recommend that participation be voluntary. Prospective trainees should be briefed on the content of the course, the time required to complete it, and the nature of the Minicourse instructional process to help them make this decision about their participation.

If Minicourse participation is to be based on an individualized assessment of training requirements, a system of pretraining evaluation must be provided. This system should include:

(a) A procedure for obtaining samples of the prospective trainee's instructional behavior;

(b) Evaluation of the trainee's level of performance against criteria of acceptability; and

(c) Matching of skill areas in which the trainee's performance needs to be improved with Minicourses or portions of courses.

The Far West Laboratory has under development diagnostic instruments that will provide such pretraining evaluation of the skills included in Minicourses (see page 13). The procedures being piloted at the State University College at Buffalo (page 55) and the utilization of Minicourses themselves to provide a performance profile (page 16) are additional means that might be adapted to begin individualized diagnosis on which to base Minicourse participation. With the use of such procedures, it is feasible to plan for trainees to have the option of taking portions of a Minicourse, rather than completing the entire course.

4. Progression through courses. Thus far, the most common pattern of Minicourse utilization has involved groups of trainees progressing through a particular course at approximately the same rate. However, because Minicourses are self-contained and self-instructional, they lend themselves well to individual pacing. If this procedure is adopted, it is essential that scheduling and

distribution of equipment and materials be planned to facilitate self-pacing. Based upon experience at the State University College at Buffalo, it may also be necessary (especially with preservice trainees) to establish individual deadlines in a self-pacing program to help discipline trainees' work.

5. Orientation of trainees. It would be difficult to overstate the importance of providing a thorough orientation before trainees begin their first Minicourse. Even when information about a course has been made available as a preliminary in helping teachers decide whether to participate, an orientation program should be held at the time they are ready to begin training. The essential points to cover are:

(a) The self-instructional, self-evaluative character of the Minicourse process;

(b) The steps of the Minicourse instructional model: study--observe--practice--refine skills;

(c) An overview of course content;

(d) Use of the video (or audio) tape recording equipment, including a practice session in which each trainee operates the equipment himself; and

(e) Whatever procedural mechanisms have been established for solving problems, coordinating schedules, and the like.

The coordinator's handbook that accompanies each Minicourse further details the orientation process.

6. Provision of training sites. The number of training sites that will be operated simultaneously is an important consideration.

Since it would be highly disruptive to the pupils' ongoing educational program if microteaching facilities were not available in or adjacent to their regular school building, it is necessary to provide training facilities in each school plant in which trainees will be involving pupils in their microteaching. Thus, for teachers from more than one school to participate simultaneously in a Minicourse program, multiple training sites must be established.

Minicourse training sites should provide: (a) a readily available pool of students; (b) a microteaching facility; and (c) an area in which trainees can view Minicourse instructional and model films.

(a) Pupils involved in microteach lessons should, if possible, be ones with whom the trainee has some ongoing interaction. In-service teachers and prospective teachers engaged in a clinical experience in the schools may readily work with pupils from the classrooms to which they are assigned. Preservice trainees not yet involved in some type of classroom teaching assignment may need to conduct their microteach lessons with students from a nearby cooperating school.

(b) The area in which trainees conduct their microteaching should provide a quiet setting in which the trainee may work with a small group of students. Although some Minicourse programs have been conducted in which teachers have done their microteaching in their regular classrooms (with the other students sent to another classroom, the library, etc.), it is preferable if a special microteaching facility can be provided apart from the larger classroom

settings in the school. All of the videotape recording equipment can then be set up permanently and trainees will have a quiet, non-distracting environment in which to concentrate on practicing the teaching skills.

The special microteaching facility need not be elaborate. It can be a small room, about 8 by 15 feet, equipped with a table, chairs for about five students, a video (or audio) tape recorder, a camera, one or two microphones with a sound mixer, a small monitor, and the necessary interconnecting cables. If an extra room is not available, a school bus or smaller van-type vehicle may be outfitted to serve as the microteaching center.

Since teaching and evaluating a microteach lesson requires about 60 minutes on the average, one microteach facility can accommodate only five trainees during a 9:00 a.m. to 3:00 p.m. school day. Therefore, the number of trainees who can share a microteach facility is limited. For most Minicourses, 10 trainees can conduct microteach and reteach lessons in a single facility during a given week.

(c) An area in which trainees may view instructional and model films is quite easily provided. It may be any room in which a screen and projector or videotape monitor can be set up and teachers can sit undisturbed.

7. Distribution of course materials. The materials for a Minicourse typically include a teacher handbook, instructional and model lesson videotapes or films, and videotapes for recording the trainee's microteach lessons. If only one training site is operated, materials may simply be deposited in the facility and a

schedule established for their use. If multiple sites are employed, procedures must be developed for rotating instructional films and tapes among the various sites. Once a system has been established for doing this, distribution of materials need not be difficult, but it is essential that the system operate smoothly. Teachers can become frustrated and lose interest if course materials are not available to them on a reasonable schedule.

8. Time for Minicourse Work. Experience in utilizing Minicourses in a wide variety of application patterns emphasizes the importance of providing sufficient time for carrying out Minicourse activities. It is most unadvisable to expect trainees to undertake a course in addition to all of their regular activities. For preservice trainees, Minicourses may be taken in lieu of some other course or as an integral part of a clinical experience. For inservice teachers, Minicourses may be an alternative to other types of inservice education or a voluntary additional training effort so long as released time is provided. Under any of these circumstances, trainees need to have time during the regular school day in which to conduct their microteaching lessons.

With administrative support, any number of arrangements can be made to facilitate freeing teachers during the school day. For example, student teachers, teacher aides, or interns may take over a class during microteach lessons. Or two teachers taking Minicourses may work as partners to free each other during a portion of the day.

9. Troubleshooting and guidance. During a Minicourse, two types of assistance should be readily available--troubleshooting to solve equipment and schedule problems, and substantive guidance for questions about course content.

(a) With the heavy use customarily given videotape recording equipment in a Minicourse program, a variety of equipment problems may occur. Equipment may break down and require repair; trainees may have difficulty in learning to place microphones properly; the quality of video recordings may be unsatisfactory. To avoid a situation in which technical problems impair the training program, a qualified person should be on call to provide assistance.

(b) Guidance of a substantive nature should be provided by leaders specially trained to serve as Minicourse counsellors. Leaders may be classroom teachers, Teacher Corps team leaders, curriculum consultants from the school district, or any of a number of other types of personnel. Each leader should have previously completed the Minicourses that are being offered and be thoroughly conversant with the coordinator's handbook supplied with the courses. Leaders should have skill in recognizing when the various instructional behaviors presented in a Minicourse are being used, determining the quality of the use of the behaviors, and identifying possible causes of poor use of particular behaviors. As suggested by the experience with a field center utilization pattern at Kansas State Teachers College, the more decentralized the training sites, the more critical on-site leadership tends to become.

10. Evaluation. Minicourses are self-evaluative--that is, they provide criteria and procedures by which trainees evaluate their own performance. If desired, assistance in interpreting the results of self-evaluation may be provided by counselling personnel. In a program in which trainees are expected to attain specified levels of performance, a post-course conference may be held to assess the level of skill the teacher has demonstrated in his videotapes and to determine whether recycling through portions of the course is appropriate. Such a procedure is described in the report from the State University College at Buffalo.

If it is necessary to assign some grade to the trainee's work, the judgment should be limited to pass/fail or satisfactory/unsatisfactory. A trainee either does or does not demonstrate a satisfactory level of performance of the prescribed teaching skills.

11. Monitoring performance. A system for monitoring the trainee's long-term use of the skills acquired through a Minicourse may be established. At designated intervals (such as every three months), he may tape lessons and score his performance of the teaching behaviors. If below a previously established criterion (and if the instructional situation still requires the use of the skills), the trainee can then repeat appropriate sequences of the Minicourse. Over a period of time, therefore, it is possible to utilize Minicourses as a continuing basis for self-directed improvement.

FOR MORE INFORMATION:

Beatrice Ward, Teacher Education Division, Far West Laboratory for Educational Research and Development, 1855 Folsom Street, San Francisco, California 94103

John Masla, Director, Teacher Corps, Bacon Hall 117, State University College at Buffalo, 1300 Elmwood, Buffalo, New York 14222

Roger S. Pankratz, Director, Teacher Corps, Kansas State Teachers College, Emporia, Kansas 66801

Wayne Smith, Director, Teacher Corps, Livingston University, Livingston, Alabama 35470

APPENDIX A

TEACHER TRAINING MATERIALS

Developed by the
Teacher Education Division
Far West Laboratory for Educational Research
and Development

As outlined in the opening chapter of this monograph, teacher training materials will eventually be available for six competency clusters. In each, the training package will include: (a) an interest stimulator; (b) diagnostic materials; (c) a concept developer or protocol; (d) skill training materials, including Minicourses; and (e) long-range monitoring and decision materials. Only those training materials that have been completed or are under way at the time of this writing are listed here.

Minicourses listed below as commercially produced are available from the Macmillan Company, Front and Brown Streets, Riverside, New Jersey 08075.

Competency Cluster 1: Questioning/Discussion

a. Concept developer on questioning

b. Skill training materials

- -- Minicourse 1: Effective Questioning in a Classroom Discussion--Elementary (Commercially produced)
- -- Minicourse 3: Effective Questioning in a Classroom Discussion--Secondary
- -- Minicourse 9: Higher Cognitive Questioning (Commercially produced)
- -- Minicourse 20: Divergent Thinking
- -- Discussing Controversial Issues

Competency Cluster 2: Respondi

a. Interest stimulator

b. Concept developers on using pupil ideas and praise and corrective feedback

c. Skill training materials

   -- Minicourse 10: Role Playing in the Upper Elementary Grades

   -- Minicourse 23: Classroom Management through Positive Reinforcement

   -- Dealing with Confrontation Situations

d. Long-range monitoring and decision materials

Competency Cluster 3: Management of Independent Individualized Learning

a. Skill training materials

   -- Minicourse 8: Organizing Independent Learning--Primary Level (Commercially produced)

   -- Minicourse 15: Organizing Independent Learning--Intermediate Level (Commercially produced)

Competency Cluster 4: Teaching Reading

a. Skill training materials

   -- Minicourse 18: Teaching Reading as Decoding (Commercially produced)

   -- Minicourse 22: Teaching Reading as Comprehension

   -- Tutoring in Reading

Competency Cluster 5: Teaching Social Studies

a. Skill training materials

   -- Minicourse 9: Higher Cognitive Questioning (Commercially produced)

-- Minicourse 20: Divergent Thinking

-- Discussing Controversial Issues

b. Long-range monitoring and decision materials

Other Training Materials

-- Minicourse 2: Developing Children's Oral Language (Commercially produced)

-- Minicourse 5: Individualizing Instruction in Mathematics (Commercially produced)

-- Interaction Analysis

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